

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of:)	
)	
Encryption of Amateur Radio)	
Communications)	<u>RM-11699</u>
)	
To: The Chief, Wireless)	
Telecommunications Bureau)	

REPLY TO THE COMMENTS OF JAMES R. KENNEDY, PhD

The success of the amateur service in supplying assistance in times of need hasn't been based upon expressed or implied contracts with so-called 'served agencies.' Nor, do I believe that its future effectiveness post-disaster will depend upon such minutia. The ability of the amateur service to respond effectively has been the result of the largesse of individual time and equipment in times of societal need.

1. In his Comments, Dr. James R. Kennedy infers that without some means of ciphering our communications during emergencies, amateur radio will have lessened value to public safety, first responders, and healthcare facilities. No specific examples were offered, but several hypotheticals involving the protection of staff, interference with operations, and the aversion of panic in the populace were offered.¹ None of his envisioned situations included international emergencies, so I will not address same as ciphering would obviously serve to inhibit amateur radio's communication effectiveness in those situations. Language differences and propagation are two well known obstacles. We don't need a third. He did, however, express his concern that we need concern ourselves with preservation of National Security.² Perhaps suggesting a return to the days of an affirmation of loyalty being a necessary part of license application and renewal

¹ See Kennedy Comments, p.2 under "Tactical Issues."

² *Ibid*, p. 2, under "National Security"

to help deter nefarious intent. But, maybe now just a loyalty oath to obtain an encryption key.

2. As far as its use as a back-up means for failed or disabled local public safety communications, prescription of ciphering would only serve to limit the potential number of amateurs available at any given time to assist. And, obviously, hardware compatibility would be a must. The “keys” to enable encryption and decryption must be both able to be changed very frequently and quickly, and be known by a sufficient number of amateurs to be able to form a useful network. The very nature of encryption serves to both limit telecommunication interception and the availability of ad-hoc participants and would only hinder the amateur service’s future ability to effectively respond.

3. Over the last two decades, public safety agencies have been strongly urged to migrate from conventional mobile relay (commonly referred to as repeater) systems onto computer-controlled, cellular-telephone-like, trunked radio systems. Promoters from the various equipment vendors proclaim that multiple channels, automatically selected and reused over the geography of such systems, will permit better utilization of equipment across many users. Just like the concept employed by cellular telephone carriers. Sadly, the record of performance of trunked systems is littered with failures affecting large geographies. Perhaps the most noteworthy example being the City of New Orleans total loss of police and fire communications for several days following Hurricane Katrina.³ The latest victim as this is being written is the City of Detroit.⁴ What is not explained by the trunked hardware brokers is that unlike conventional mobile relay systems, the ability to use parts of trunked systems or even effective simplex operation is next to impossible

³ See McVey Comments EB 06-119 at 5.

⁴ On July 5, 2013, the entire Detroit, Michigan police department trunked radio system collapsed. “Michigan State Police stepped in to allow Detroit’s emergency system to use the state’s communication system. This backup was used for several days while crews worked to restore the Detroit system. Detroit Police Spokeswoman Sergeant Eren Stephens said that during the initial down time there had been some 60 priority one and more than 170 non-emergency calls that had backed up because of the issue.” *Amateur Radio Newsline* No. 1874, July 12, 2013.

since mobiles must operate at very low transmitter powers to allow reuse of channels in such systems.⁵

4. And, here comes amateur radio to the rescue by accident or ‘contract.’ Should the primary purpose of amateur radio, from this point forward, be its use as a band-aid for inadequate, single-point failure-prone public safety radio systems? And, in order to do so, offer all of the bells and whistles normally available on the normal public safety system including encryption and perhaps a digital protocol? Dr. Kennedy certainly suggests so, in order to fulfill his ‘served agency’ aspirations with the County of Hawaii Civil Defense Agency.⁶

5. Perhaps the very nature of the Amateur Service has changed. From primarily a cadre of those interested in technical experimentation and the betterance of international good will to one where back-up communications for poorly-performing, easily-crippled public safety networks is the primary function. If so, it is a sad day for America. If it isn’t enough to have already cast electronics manufacturing to offshore sweat shops; the innovation and capability of future telecommunications design will now also leave us. Gone because the wireless experimentation facet that used to interest so many young people in amateur radio has been overshadowed by those wanting it to be little more than a crutch for oft-broken, poorly designed public safety radio systems.

6. In my college years, I was employed by the Kern County CA Communications Department as both a radio technician and public safety dispatcher. To this day, that organization relies upon conventional mobile relay and remote base systems that offer overlapping public safety coverage and agency interoperability. A robust, reliable system serving an area as large or larger than some states. Unlike single-point-failure prone trunked systems, it is a design that allows for effective simplex mobile operation if fixed assets are unusable. Perhaps there wouldn’t be all of these ‘served agency’ concerns voiced about backing up radio systems if public safety agencies had commissioned

⁵ Trunked systems have an Achilles’ Heel by virtue of what is called a *trunking controller*. If the controller, or its power supply, or its radio link should fail, all system nodes revert to simply low powered, in-cell systems with no central dispatch or wider area coverage for mobile units.

⁶ Kennedy *op.cit.* p.1, ¶ 3.

unbiased, independent studies of telecommunications systems options in the first place, instead of only listening to the sales pitches from radio equipment vendors.

We don't need encryption. Not now and not in the future. It will only serve to limit to a much greater degree the number of amateur radio operators available in future crises and flame the fires of diversion from many of the other important purposes of the Amateur Radio Service.

Respectfully,

/s/

W. Lee McVey
W6EM
PG-12-19879

Certification of Service

This is to certify that on July 15, 2013, I placed a true copy of my Reply Comments in the United States Mail, First Class postage-paid, addressed to Dr. James R. Kennedy, K6MIO, at his given address, which is: P.O. Box 1939, Hilo, HI, 96721-1939.